

1. A circuit for processing broadcast signals comprising:

circuitry for receiving and processing broadcast signals, which signals contain audio information, and  
5 providing a first audio signal, and

circuitry for controlling the amplitude of a received second audio signal in response to a first control signal, and providing a third audio signal;

wherein the circuit for controlling the amplitude  
10 further comprises circuitry that receives the first audio signal and provides the second audio signal for automatically limiting the amplitude of the first audio signal in response to at least one reference signal.

15 2. A circuit according to claim 1, wherein the circuitry for automatically limiting the amplitude of the first audio signal comprises:

circuitry, that receives the second audio signal, for providing an output signal in response to the  
20 amplitude of the second signal;

circuitry for comparing the output signal and said at least one reference signal and providing a second control signal in response to the output signal and said at least one reference signal; and

25 circuitry, that receives the first audio signal and that is controlled in response to the second control signal, for providing the second audio signal.

3. A circuit according to claim 2, wherein the  
30 circuitry for providing the output signal; the circuitry for providing the second control signal; and the

circuitry for providing the second audio signal are implemented by analog and/or digital means.

4. A circuit according to claim 2, wherein the  
5 circuitry for providing: the output signal; the second control signal; and for providing the second audio signal are implemented by hardware digital circuitry.

5. A circuit according to claim 3, wherein the  
10 digital means can be represented by one or more digital signal processing algorithms and/or by one or more software routines.

6. A circuit according to claim 5, wherein the  
15 digital means is implemented by any combination of hardware digital circuitry, one or more digital signal processing algorithms, and one or more software routines.

7. A circuit according to claim 2, wherein the  
20 circuitry for providing the output signal is a Root-Mean Square extractor circuitry; the circuitry for providing the second control signal is an integrating comparator; and the circuitry for providing the second audio signal is an attenuator.

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8. A circuit according to claim 7, wherein the Root-Mean Square extractor circuitry comprises a series connected rectifier and low pass filter.

30 9. A circuit according to claim 7, wherein the circuitry for providing the second control signal

comprises a current sourcing/sinking comparator having a capacitor connected between its output terminal and a reference voltage.

5           10. A circuit according to claim 7, wherein the circuitry for providing the second audio signal is a multiplying digital-to-analog converter.

10           11. A circuit according to claim 1, wherein it is included in circuitry and/or an apparatus that receives television signals.

15           12. A circuit according to claim 11, wherein said apparatus is a television.

16           13. A circuit according to claim 1, wherein it is included in circuitry and/or an apparatus that receives satellite signals.

20           14. A circuit according to claim 13, wherein said apparatus is a satellite decoder.

25           15. A circuit according to claim 1, wherein it is included in circuitry and/or an apparatus that receives radio signals.

            16. A circuit according to claim 15, wherein said apparatus is a radio.

30           17. A method for processing broadcast signals that comprises the steps of:

receiving and processing broadcast signals, which signals contain audio information, and providing a first audio signal; and

controlling the amplitude of a received second audio  
5 signal in response to a first control signal and providing a third audio signal; and

automatically limiting the amplitude of the first audio signal in response to at least one reference signal and providing a second audio signal.

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18. A method according to claim 17, wherein the step of automatically limiting the amplitude of the first audio signal comprises:

providing an output signal in response to the  
15 amplitude of the second signal;

comparing the output signal and said at least one reference signal and providing a second control signal in response to the output signal and said at least one reference signal; and

20 receiving the first audio signal and controlling said first audio signal in response to the second control signal, for providing the second audio signal.

19. A method according to claim 17, wherein it is  
25 implemented in circuitry and/or an apparatus that receives television signals.

20. A method according to claim 17, wherein it is  
30 implemented in circuitry and/or an apparatus that receives satellite signals.

21. A method according to claim 17, wherein it is implemented in circuitry and/or an apparatus that receives radio signals.